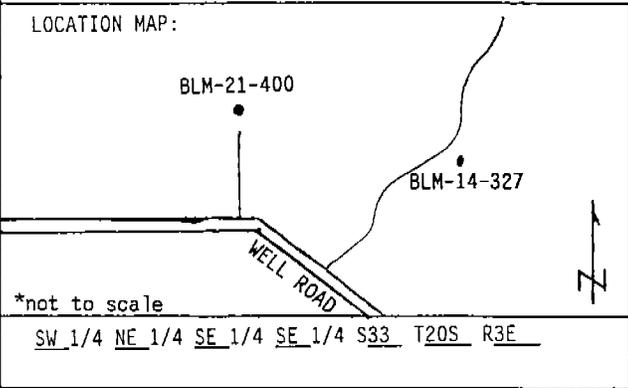


THIS HOLE WAS RE-LOGGED IN 1998.

LITHOLOGIC LOG

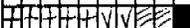
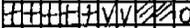
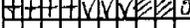
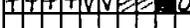
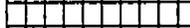
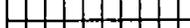
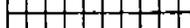
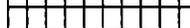
TRACHYTE @ 320 ft depth



SITE ID: NASA-WSTF LOCATION ID: BLM-21-400
 SITE COORDINATES (ft.):
 N 228493.474 E 408392.146
 GROUND ELEVATION (ft. MSL): 4648.73
 STATE: NEW MEXICO COUNTY: DOÑA ANA
 DRILLING METHOD: Mud Rotary and Air-foam Rotary
 DRILLING CONTR.: Larjon Drilling Co.
 DATE STARTED: 04-09-91 DATE COMPLETED: 07-02-91
 FIELD REP.: D. Menzie, G. Contaldo
 COMMENTS: Mud rotary 0'-55' (12 1/2" mill tooth bit), ream
0'-55' (16" mill tooth bit), set 55' of 10" surface cas-
ing. Air-foam Rotary 55'-460' (9 7/8" button bit). Total
Depth = 460'. Bedrock encountered at 453'. 320 ft

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
			Timed by Driller	Cuttings 0'-460'	0'-303' Santa Fe Group Alluvium: Cutting sizes range from less than 0.1 inches to 1.4 inches, average size about 0.4 inches. Sample bimodal with about 1/2 average size .1 inches and the other 1/2 average size .6 inches. Rounded to angular with much of the sand size cuttings rounded to subrounded and much of the gravel size cuttings subrounded blocks and angular chips. Cuttings represent unconsolidated to moderately consolidated, polygenetic alluvium containing clasts ranging in size from silts to boulders. Lithology is predominantly dark gray (N3) micritic limestone then white (N9) iron-stained rhyolite, dark red (5 R 2/6) to grayish green (5 G 5/2) siltstone, brown (5 YR 5/6) clay, pale brown (5 YR 5/2) to pink (5 R 7/4) caliche, with lesser amounts of quartz, chert, granite, and sandstone.
5	VVV		13		5'-10' Clay-rich interval ≥ 30%.
10	VVV		22		20'-30' Clay-rich interval 10-20%.
15	VVV		26		
20	VVV		26		
25	VVV		33		
30	VVV		28		
35	VVV		25		
40	VVV		27		40'-55' Increase in drill times.
45	VVV		70		
50	VVV		64		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
50			64	Cuttings (cont'd)	
55			60		55'-210' Decrease in drill times.
60			(timed by drillograph) 5		
65			5		
70			5		
75			5		
80			5		
85			4		
90			4		90'-105' Increase in average cutting size to 0.7 inches.
95			5		
100			4		
105			4		105'-115' Decrease in average cutting size to 0.4 inches.
110			4		
115			5		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
115			5	Cuttings (cont'd)	120'-185' Increase in average cutting size to 0.7 inches.
120			4		
125			5		
130			5		
135			4		
140			5		
145			5		
150			4		
155			4		
160			4		
165			3		
170			4		
175			4		
180			4		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
180			4	Cuttings (cont'd)	
185			3		
190			4		190'-195' Slight decrease in average cutting size to 0.6 inches.
195			4		
200			3		200'-215' Increase in average cutting size to 0.75 inches.
205			3		
210			4		
215			22		215'-305' Marked increase in drill times.
220			18		220'-310' Decrease in average cutting size to 0.3 inches.
225			13		
230			19		
235			18		
240			18		
245			18		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
				Cuttings (cont'd)	
310	VVVVH++H/O		7		
315	VVVVH++H/O		6		
320	VVVVH++H/O		6		
325	VVVVH++H/O		6		
330	VVVVH++H/O		7		
335	VVVVH++H/O		6		
340	VVVVH++H/O		7		
345	VVVVH++H/O		5		
350	VVVVVVH++H/O		9		350'-453' Further decrease in sedimentary cuttings and increase in volcanic cuttings.
355	VVVVVVH++H/O		8		
360	VVVVVVH++H/O		8		
365	VVVVVVH++H/O		7		
370	VVVVVVH++H/O		4		
375	VVVVVVH++H/O		7		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
375	VVVVVVVVVH/O		7	Cuttings (cont'd)	
380	VVVVVVVVVH/O		7		
385	VVVVVVVVVH/O		7		
390	VVVVVVVVVH/O		9		
395	VVVVVVVVVH/O		10		395'-400' Slight increase in drill times.
400	VVVVVVVVVH/O		14		
405	VVVVVVVVVH/O		4		405'-455' Marked decrease in drill times.
410	VVVVVVVVVH/O		3		410'-460' Further increase in average cutting size to 0.5 inches.
415	VVVVVVVVVH/O		3		
420	VVVVVVVVVH/O		3		
425	VVVVVVVVVH/O		3		
430	VVVVVVVVVH/O		3		
435	VVVVVVVVVH/O		3		
440	VVVVVVVVVH/O		4		

Depth	Visual %	Lith	Drilling Time Scale: min	Sample Type and Interval	Lithologic Description
440	VVVVVVVV+H+O		4	Cuttings (cont'd)	440'-453' Marked increase in percent ash-flow tuff cuttings.
445	VVVVVVVVVV+H		8		453'-460' <u>Crystal-lithic Ash-flow Tuff (Cueva Tuff?)</u> : Overall color ranges from light brownish grey (5 YR 6/1) to moderate red (5 R 4/6) and moderate yellowish brown (10 YR 5/4). The red and brownish cuttings represent weathering of the bedrock surface. Individual cuttings are subangular to angular. Crystals consist primarily of quartz with lesser percentage of biotite and plagioclase. Lithic fragments include rhyolite, andesite, and limestone (?). The uppermost 10'-15' of this unit is clay-rich (as seen in cutting samples) and characterized by relatively fast penetration rates and confined water production after penetration. Some uphole contamination of limestone, rhyolite, and andesite cuttings exist in samples.
450	VVVVVVVVVV+H		4		
455	VVVVVVVVVVVV		8		
460	VVVVVVVVVVVV		11		
465					
470					Total Depth = 460'.
475					
480					
485					
490					
495					
500					
505					